

RATHORS.

1050. Chandra Deva.
1080. Madana Pâla.
1115. Govinda Chandra.
1165. Vijaya Chandra.
1175. Jaya Chandra.
1193. *Muhammadan conquest.*

Note on the Fossils in the Society's Collection reputed to be from Spiti.—By T. OLDHAM, Esq., F. R. S., &c., &c.

In the Journal of the Asiatic Society of Bengal for the present year (1863), page 124, a paper is published descriptive of some of the fossils collected by Dr. Gerard in the Spiti district in the North-Western Himalaya, which fossils had been in the Society's Museum for many years, having been presented by Dr. Gerard in 1831.

The paper referred to, is said to be a 'revised copy' of one read before the Society in November, 1861. The original paper, of which a brief abstract was given in the Journal of the Society, 1861, page 418, had been ordered for publication by the Council of the Society, but some delay occurred in the preparation of the plates to illustrate it, in consequence of the author having temporarily left India at the time, and it was not issued. Meanwhile changes in the author's views having taken place, he first desired that the paper should be issued as originally drawn up, with a postscript, but subsequently on his return to India he states that he 'withdrew' the paper and 'modified' it into its present form in which the conclusions arrived at are in several important respects just the opposite of those originally announced.

This was indeed, as the author says, "A very considerable alteration;" but the paper in its present form never having been submitted either to the Council, or to the Society, having been in fact withdrawn, and so altered without the sanction of the Council having been obtained, there has been I regret to say, no opportunity, previously to its publication, of communicating with the author.

It is not my intention to discuss in any way the correctness or incorrectness of the identification of species in the collection. This

important question can only be taken up with advantage, when the whole series of the fossils from the same localities, now in other collections, shall have been examined. My present remarks are confined solely to the brief and general notice which Mr. Blanford has prefixed to his paper, and to the results there announced.

The facts appear to be these. In 1828 Dr. Gerard collected in the valley of the Spiti and in adjoining localities, a large number of fossils, (Gleanings in Science, Vol. I. page 109.) Of these a selection was forwarded to the Asiatic Society in 1831, (Gleanings in Science, Vol. III. p. 92.) These fossils excited great attention both from the interest attaching to the fact of their having been found in the very heart of the Himalaya, and also from the marked similarity of some of the species to known English forms. The collection was almost immediately examined by the Rev. Mr. Everest, and, at his request, a portion of it was sent to England to Mr. Sowerby. On the 8th of June, 1831, Capt. Herbert read a paper on these organic remains, which was published with a plate, in September of the same year (Gleanings in Science, Vol. III. p. 265.) This plate was a small etching from the more finished drawings of the same fossils prepared to illustrate the paper by Mr. Everest published in the 18th Volume of the Asiatic Researches, p. 107. Both these plates and reduced etching were prepared by Mr. James Prinsep himself. Again in 1832, Captain Gerard on the part of his brother forwarded to the Society 164 packets of fossils from the Himalaya, (Journ. As. Soc. Bengal, Vol. I. p. 363,) and in October he forwarded the first part of his brother's paper on Spiti, which also appeared in the 18th Volume of Asiatic Researches. Meanwhile Mr. Sowerby's reply to the reference of these fossils to him was received, dated October 14th, 1831, confirming Mr. Everest's conclusions, (Journ. As. Soc. Bengal, Vol. I. p. 248.)

From all this, it is clear that no time had been lost in taking up the examination of the fossils sent by Dr. Gerard; that these fossils came at once into the keeping of Mr. James Prinsep, were examined by Mr. Everest, and by Captain Herbert; were carefully drawn; that a portion of the collection and the figures were then submitted to Mr. Sowerby, and were *at once by him recognized as similar to others from the same localities which he had seen with Mr. Stokes and Dr. Buckland.* I conceive that the names alone of the gentlemen I have mentioned are abundant guarantee that no sufficient care was wanting.

on their part to prevent any admixture of fossils from any other collection with those sent by Dr. Gerard. It seems beyond a question that Mr. Prinsep, Capt. Herbert, Messrs. Everest and Sowerby were all quite satisfied that the fossils figured on the plates I have referred to, had actually come from Dr. Gerard, and whatever confusion or neglect may have resulted in after years, the Society's collections at that time were certainly not in the disgraceful state of which Mr. Blanford so justly complains. It is then, I think, certain that these fossils from Dr. Gerard had not been accidentally mixed with the English fossils *after* they had come to Calcutta, and I think every one who reads Dr. Gerard's papers will also admit that he did not carry with him a collection of English Liassic fossils with which the Spiti collection could be 'accidentally' mixed, *before* its despatch to Calcutta. It must be borne in mind also that the plates of these fossils were published within a comparatively short time of discovery of them, when the error of having any admixture of English fossils could have been discovered.

Of seven species of ammonites so figured by Mr. Prinsep, and described by Mr. Everest and Mr. Sowerby as part of Dr. Gerard's collection, the author of the paper I refer to entirely rejects as 'spurious,' and as being English specimens, no less than five. Others, although there is not nearly so much evidence of their being from Spiti, are as unhesitatingly admitted as genuine.

M. Jacquemont visited the neighbourhood of Spiti in 1830, and brought away a noble collection of fossils which have unfortunately since remained undescribed in the Museum, Paris (with the exception of one or two species noticed by L. Von Buch.) Subsequently in 1860, I despatched Messrs. Theobald and Mallet, both of the Geological Survey of India, to Spiti, during the time when work in the plains of India was impracticable, with instructions to bring away as full a collection of fossils as the time they could devote to it would permit, and to make such notes and observations as would elucidate the Geological structure of the district. A brief account of the trip was given to the Society by Mr. Theobald and published in 1862, (Journ. As. Soc. Bengal, 1862, p. 480.) The collection made by these gentlemen was a good one considering the brief time at their disposal, but could not at all be accepted as fully illustrating the Geology of the valley. Mr. Theobald subsequently, in the spring of 1862, when

putting out and examining these fossils collected by himself, and Mr. Mallet, visited the Society's Museum to compare those species already named and described by Mr. Blanford. Among these he noticed several species of which *no* specimens had occurred to himself or to Mr. Mallet, and on examining these specimens more closely he noticed also a difference in the mineral character of the rock in which these species occurred. He at once, too hastily as I think, and without examining into the history of these fossils, but knowing well the neglect with which the Society's collections had been treated, came to the conclusion that these were not fossils from Spiti at all, but were English Liassic fossils, which had got mixed up with the true Spiti fossils. This idea he communicated at once to Mr. Blanford who at first rejected the notion, but subsequently, as stated by himself, adopted it fully.

Believing that there are no sufficient grounds for this conclusion, I cannot avoid noticing it. The question as regards Dr. Gerard's fossils alone would be of minor importance, but this matter involves a principle subversive of all sound progress in our knowledge of the Geological distribution of organic remains.

The grounds on which Mr. Blanford has rejected all those fossils which he had identified with English Liassic species are stated to be these.

1. Mr. Theobald's belief to that effect, which belief I know to have been based on a consideration of a slight difference in the mineral character of the rock.

- 2nd. An examination of undoubted Whitby fossils.

- 3rd. An examination of Col. Strachey's collection from the Niti pass, north of Kumaon.

- 4th. An examination of General Hardwicke's collection from Nepal, and—

- 5th. An examination of Jacquemont's collection from near Spiti.

Putting out of the question for the moment Jacquemont's collections which were from nearly the same ground as Gerard's, I cannot see in what way the nature of the fossils found at Whitby in Yorkshire, of those found in Nepal some five hundred miles off, or at Niti more than one hundred miles off, can possibly determine the *fact of the occurrence or non-occurrence of certain forms at Spiti*. There is no question here as to the identity or even the similarity of the species, in determining which a comparison of the others would un-

questionably be useful; the question is simply do they occur, or do they not. I reject as useless also, in any bearing on this fact, the consideration of the nature of the rock in which they are found. Differences or resemblances in mineral character are utterly worthless as guides to such facts.

The non-occurrence of the species referred to in Jacquemont's collection, and in that made by Messrs. Theobald and Mallet remains. Now did two persons visiting even a single quarry to collect fossils after an interval of time ever come away with the same species? But here was not a quarry but a district stretching over some fifty miles of difficult country. The fact that these species did not occur to Jacquemont, or afterwards to Theobald and Mallet, no more disproves the fact they had previously occurred to Gerard than any other case of this kind. It might just as conclusively be argued that some of the beautiful fossils from the cretaceous rocks of S. India which were originally collected by Messrs. Kaye and Cunliffe and described by E. Forbes, were not from that district at all, but from some other and far distant locality, and had been 'accidentally mixed' up with their genuine collections, because the same species were not met with by Mr. Blanford himself in his subsequent and much more detailed examination of the same area.

But there is still another and to my mind a conclusive proof that the specimens rejected by Mr. Blanford did really belong to Gerard's collections, a proof which I should have been glad to communicate to Mr. Blanford had there been an opportunity. A reference to Mr. Sowerby's letter which I noticed above, will show that similar fossils are said to have been in the possession of Dr. Buckland. To that Geologist, then one of the most zealous palæontologists in England, a fine series of these Spiti fossils were sent by Dr. Gerard himself. This collection still exists among the other treasures of the Oxford Museum, and I had the pleasure of going over it carefully with Prof. Phillips last year, having visited Oxford for the purpose. It cannot be supposed that in this series also Whitby or English fossils had got mixed either 'accidentally' or otherwise. The care with which the collections at Oxford have been kept is sufficient to render this idea untenable for a moment. But in this (Gerard's) collection at Oxford are several specimens of several of the species* noticed by Mr. Blan-

* I may mention notably *Ammonites bifrons*, *Am. communis*, both of which

ford, and by him rejected as spurious Spiti fossils. I think this fact quite conclusive, and that all the specimens so hastily rejected as Spiti fossils by Mr. Blanford must be restored to their proper place in this interesting and valuable collection.

I said before that I had only to deal with the facts, what the conclusions derived from those facts may be is not now under discussion, and whether there be in the Spiti district Liassic beds or whether these Liassic species* occur in the same beds with others, supposed to belong to different periods are questions which must await future solution. I regret that the circumstances I have mentioned above, (viz., that this paper by Mr. Blanford in its present state never had come before the Society or Council) prevented my having an opportunity of making the author acquainted with the fact, that in another portion of Dr. Gerard's Spiti collections, several specimens existed of the very species which, on such insufficient grounds, he has rejected here.

I cannot, however, conclude without again directing serious attention to the very great mischief arising from dealing with questions of fact in this way. If the fact of the occurrence of certain forms in certain places is to be thus questioned, and fancy or some supposed mineral resemblance is to be accepted as negating the deliberate statements of those who had collected the fossils, supported by the evidence of careful investigators who had examined these fossils almost immediately after their discovery, (and not thirty years after), there can be no progress. It would be infinitely better, and infinitely safer, to leave such specimens, as they are said to have been found, without labels, or even to throw them out, than to falsify all the landmarks of science by exhibiting them with localities attached which are only imaginative. The specimens referred to are now (September 18th, 1863,) put out in the Society's Museum (by whose authority I know not) mounted and carefully named and marked, *Upper Lias, Whitby, England*, without any note of doubt, and without any reference whatever to the fact that they had ever been even supposed to come from Spiti. Collections thus treated are worse than useless, they are mischievous.

occur in the Society's collection; also *Am. crassus*, Phillips, a true Liassic species but of which specimens do not occur in the Society's cabinet.

* *Ceratites Himalayanus*, Blanford, is exhibited in the Society's collection as from the *Upper Lias*, Spiti valley.
